

SEQUENCE LISTING

<110> Burnham, Martin K. R.

<120> dexB

<130> GM10087

<150> 60/057,876

<151> 1997-09-02

<160> 4

<170> FastSEQ for Windows Version 3.0

<210> 1

<211> 1608

<212> DNA

<213> Streptococcus pneumoniae

<220>

<221> CDS

<222> (1)...(1605)

<400> 1

atg caa gaa aaa tgg tgg cat aat gcc gta gtc tat caa gtc tat cca
48

Met Gln Glu Lys Trp Trp His Asn Ala Val Val Tyr Gln Val Tyr Pro
1 5 10 15

aag agt ttt atg gat agt aat gga gat gga gtt ggt gat ttg cca ggt
96

Lys Ser Phe Met Asp Ser Asn Gly Asp Gly Val Gly Asp Leu Pro Gly
20 25 30

att acc agt aag ttg gac tat cta gct aag tta gga atc aca tcg att
144

Ile Thr Ser Lys Leu Asp Tyr Leu Ala Lys Leu Gly Ile Thr Ser Ile

35

40

45

tgg ctt tct ccc gtt tat gac agc cct atg gat gat aat ggc tac gat
192

Trp Leu Ser Pro Val Tyr Asp Ser Pro Met Asp Asp Asn Gly Tyr Asp
50 55 60

att gct gat tat caa gcg att gcg gct att ttt gga acc atg gag gac
240

Ile Ala Asp Tyr Gln Ala Ile Ala Ala Ile Phe Gly Thr Met Glu Asp
65 70 75 80

atg gat gaa ctg att gca gaa gct aag aag cgt gat atc cgt atc atc
288

Met Asp Glu Leu Ile Ala Glu Ala Lys Lys Arg Asp Ile Arg Ile Ile
85 90 95

atg gac ttg gtg gtc aat cat acc tcg gat gag cat gcc tgg ttt gta
336

Met Asp Leu Val Val Asn His Thr Ser Asp Glu His Ala Trp Phe Val
100 105 110

gag gcc tgt gaa aat cct aat agc cct gag cga gac tac tat atc tgg
384

Glu Ala Cys Glu Asn Pro Asn Ser Pro Glu Arg Asp Tyr Tyr Ile Trp
115 120 125

cgc gat gaa ccc aat gac cta gat tct atc ttt agt ggg tct gct tgg
432

Arg Asp Glu Pro Asn Asp Leu Asp Ser Ile Phe Ser Gly Ser Ala Trp
130 135 140

gaa tac gat gaa aag tca ggt caa tac tat ctc cac ttt ttc agc aag
480

Glu Tyr Asp Glu Lys Ser Gly Gln Tyr Tyr Leu His Phe Phe Ser Lys
145 150 155 160

aaa cag ccg gat ctc aac tgg gaa aat gaa aaa ctt cgc cag aaa att
528

Lys Gln Pro Asp Leu Asn Trp Glu Asn Glu Lys Leu Arg Gln Lys Ile

165 170 175

576 tat gag atg atg aac ttc tgg att gat aag ggt att ggt ggt ttc cgt
Tyr Glu Met Met Asn Phe Trp Ile Asp Lys Gly Ile Gly Gly Phe Arg
180 185 190

624 atg gat gtt att gac atg att ggc aaa att cct gac gag aag gta gtc
Met Asp Val Ile Asp Met Ile Gly Lys Ile Pro Asp Glu Lys Val Val
195 200 205

672 aat aat ggt cct atg ctc cat ccc tat ctc aag gaa atg aat cag gcg
Asn Asn Gly Pro Met Leu His Pro Tyr Leu Lys Glu Met Asn Gln Ala
210 215 220

720 acc ttt gga gat aag gat ctc ttg aca gta ggg gag act tgg gga gca
Thr Phe Gly Asp Lys Asp Leu Leu Thr Val Gly Glu Thr Trp Gly Ala
225 230 235 240

768 acg cca gag att gcc aaa ctc tac tct gat cca aag ggg caa gaa ttg
Thr Pro Glu Ile Ala Lys Leu Tyr Ser Asp Pro Lys Gly Gln Glu Leu
245 250 255

816 tct atg gtc ttc cag ttt gaa cat atc ggt ctt cag tat cag gaa ggt
Ser Met Val Phe Gln Phe Glu His Ile Gly Leu Gln Tyr Gln Glu Gly
260 265 270

864 cag cct aaa tgg cac tat caa aaa gag ctg aat atc gct aag tta aaa
Gln Pro Lys Trp His Tyr Gln Lys Glu Leu Asn Ile Ala Lys Leu Lys
275 280 285

912 gaa atc ttc aac aaa tgg cag aca gag tta gga gtt gag gac ggc tgg
Glu Ile Phe Asn Lys Trp Gln Thr Glu Leu Gly Val Glu Asp Gly Trp

290 295 300
aat tcc ctc ttc tgg aac aac cat gac ctc cct cgt att gtc tca atc
960 Asn Ser Leu Phe Trp Asn Asn His Asp Leu Pro Arg Ile Val Ser Ile
305 310 315 320
tgg gga aat gac caa gaa tac cgc gaa aaa tct gcc aaa gcc ttt gca
1008 Trp Gly Asn Asp Gln Glu Tyr Arg Glu Lys Ser Ala Lys Ala Phe Ala
325 330 335
atc ttg ctt cat ctt atg aga gga act cct tat atc tac caa ggt gag
1056 Ile Leu Leu His Leu Met Arg Gly Thr Pro Tyr Ile Tyr Gln Gly Glu
340 345 350
gag att ggg atg acc aac tat ccg ttt gaa aca ctg gat caa gta gaa
1104 Glu Ile Gly Met Thr Asn Tyr Pro Phe Glu Thr Leu Asp Gln Val Glu
355 360 365
gat att gaa tct ctc aac tat gcg cgt gag gct ctt gaa aaa ggt gtt
1152 Asp Ile Glu Ser Leu Asn Tyr Ala Arg Glu Ala Leu Glu Lys Gly Val
370 375 380
ccg atg caa gaa atc atg gac agt atc cgt gtt att gga cgt gac aat
1200 Pro Met Gln Glu Ile Met Asp Ser Ile Arg Val Ile Gly Arg Asp Asn
385 390 395 400
gcc cgt acc cct atg caa tgg gac gag agc aaa aac gct ggt ttc tca
1248 Ala Arg Thr Pro Met Gln Trp Asp Glu Ser Lys Asn Ala Gly Phe Ser
405 410 415
aca ggt caa cct tgg ttg gca gtt aat cca aat tac gag atg atc aac
1296 Thr Gly Gln Pro Trp Leu Ala Val Asn Pro Asn Tyr Glu Met Ile Asn

420 425 430

gtc caa gaa gcg ctg gca aat cca gat tct att ttc tat acc tat cag
1344

Val Gln Glu Ala Leu Ala Asn Pro Asp Ser Ile Phe Tyr Thr Tyr Gln
435 440 445

aaa ctg gtc caa att cgc aag gag aat agt tgg cta att cga gct gac
1392

Lys Leu Val Gln Ile Arg Lys Glu Asn Ser Trp Leu Ile Arg Ala Asp
450 455 460

ttt gaa ttg ctt gat acg gct gat aag gtc ttt gct tat ata cgt aag
1440

Phe Glu Leu Leu Asp Thr Ala Asp Lys Val Phe Ala Tyr Ile Arg Lys
465 470 475 480

gat ggc gac cgt cgc ttc cta gtt gtg gct aac ttg tcc aat gaa gag
1488

Asp Gly Asp Arg Arg Phe Leu Val Val Ala Asn Leu Ser Asn Glu Glu
485 490 495

caa gac ttg aca gta gaa gga aaa gtc aaa tct gtc ttg att gaa aac
1536

Gln Asp Leu Thr Val Glu Gly Lys Val Lys Ser Val Leu Ile Glu Asn
500 505 510

acc cta gct caa gaa gtc ttt gaa aaa caa atc tta gtt cca tgg gat
1584

Thr Leu Ala Gln Glu Val Phe Glu Lys Gln Ile Leu Val Pro Trp Asp
515 520 525

gct ttc tgt gtg gaa tta cta taa
1608

Ala Phe Cys Val Glu Leu Leu
530 535

<210> 2
<211> 535

<212> PRT

<213> Streptococcus pneumoniae

<400> 2

Met	Gln	Glu	Lys	Trp	Trp	His	Asn	Ala	Val	Val	Tyr	Gln	Val	Tyr	Pro
1				5					10				15		
Lys	Ser	Phe	Met	Asp	Ser	Asn	Gly	Asp	Gly	Val	Gly	Asp	Leu	Pro	Gly
					20				25				30		
Ile	Thr	Ser	Lys	Leu	Asp	Tyr	Leu	Ala	Lys	Leu	Gly	Ile	Thr	Ser	Ile
					35				40				45		
Trp	Leu	Ser	Pro	Val	Tyr	Asp	Ser	Pro	Met	Asp	Asp	Asn	Gly	Tyr	Asp
					50				55				60		
Ile	Ala	Asp	Tyr	Gln	Ala	Ile	Ala	Ala	Ile	Phe	Gly	Thr	Met	Glu	Asp
					65				70				75		80
Met	Asp	Glu	Leu	Ile	Ala	Glu	Ala	Lys	Lys	Arg	Asp	Ile	Arg	Ile	Ile
					85				90				95		
Met	Asp	Leu	Val	Val	Asn	His	Thr	Ser	Asp	Glu	His	Ala	Trp	Phe	Val
					100				105				110		
Glu	Ala	Cys	Glu	Asn	Pro	Asn	Ser	Pro	Glu	Arg	Asp	Tyr	Tyr	Ile	Trp
					115				120				125		
Arg	Asp	Glu	Pro	Asn	Asp	Leu	Asp	Ser	Ile	Phe	Ser	Gly	Ser	Ala	Trp
					130				135				140		
Glu	Tyr	Asp	Glu	Lys	Ser	Gly	Gln	Tyr	Tyr	Leu	His	Phe	Phe	Ser	Lys
					145				150				155		160
Lys	Gln	Pro	Asp	Leu	Asn	Trp	Glu	Asn	Glu	Lys	Leu	Arg	Gln	Lys	Ile
					165				170				175		
Tyr	Glu	Met	Met	Asn	Phe	Trp	Ile	Asp	Lys	Gly	Ile	Gly	Gly	Phe	Arg
					180				185				190		
Met	Asp	Val	Ile	Asp	Met	Ile	Gly	Lys	Ile	Pro	Asp	Glu	Lys	Val	Val
					195				200				205		
Asn	Asn	Gly	Pro	Met	Leu	His	Pro	Tyr	Leu	Lys	Glu	Met	Asn	Gln	Ala
					210				215				220		
Thr	Phe	Gly	Asp	Lys	Asp	Leu	Leu	Thr	Val	Gly	Glu	Thr	Trp	Gly	Ala
					225				230				235		240
Thr	Pro	Glu	Ile	Ala	Lys	Leu	Tyr	Ser	Asp	Pro	Lys	Gly	Gln	Glu	Leu
					245				250				255		
Ser	Met	Val	Phe	Gln	Phe	Glu	His	Ile	Gly	Leu	Gln	Tyr	Gln	Glu	Gly
					260				265				270		
Gln	Pro	Lys	Trp	His	Tyr	Gln	Lys	Glu	Leu	Asn	Ile	Ala	Lys	Leu	Lys
					275				280				285		

Glu Ile Phe Asn Lys Trp Gln Thr Glu Leu Gly Val Glu Asp Gly Trp
290 295 300
Asn Ser Leu Phe Trp Asn Asn His Asp Leu Pro Arg Ile Val Ser Ile
305 310 315 320
Trp Gly Asn Asp Gln Glu Tyr Arg Glu Lys Ser Ala Lys Ala Phe Ala
325 330 335
Ile Leu Leu His Leu Met Arg Gly Thr Pro Tyr Ile Tyr Gln Gly Glu
340 345 350
Glu Ile Gly Met Thr Asn Tyr Pro Phe Glu Thr Leu Asp Gln Val Glu
355 360 365
Asp Ile Glu Ser Leu Asn Tyr Ala Arg Glu Ala Leu Glu Lys Gly Val
370 375 380
Pro Met Gln Glu Ile Met Asp Ser Ile Arg Val Ile Gly Arg Asp Asn
385 390 395 400
Ala Arg Thr Pro Met Gln Trp Asp Glu Ser Lys Asn Ala Gly Phe Ser
405 410 415
Thr Gly Gln Pro Trp Leu Ala Val Asn Pro Asn Tyr Glu Met Ile Asn
420 425 430
Val Gln Glu Ala Leu Ala Asn Pro Asp Ser Ile Phe Tyr Thr Tyr Gln
435 440 445
Lys Leu Val Gln Ile Arg Lys Glu Asn Ser Trp Leu Ile Arg Ala Asp
450 455 460
Phe Glu Leu Leu Asp Thr Ala Asp Lys Val Phe Ala Tyr Ile Arg Lys
465 470 475 480
Asp Gly Asp Arg Arg Phe Leu Val Val Ala Asn Leu Ser Asn Glu Glu
485 490 495
Gln Asp Leu Thr Val Glu Gly Lys Val Lys Ser Val Leu Ile Glu Asn
500 505 510
Thr Leu Ala Gln Glu Val Phe Glu Lys Gln Ile Leu Val Pro Trp Asp
515 520 525
Ala Phe Cys Val Glu Leu Leu
530 535

<210> 3
<211> 21
<212> DNA
<213> Streptococcus pneumoniae

<400> 3

tttggcttc tcccgtttat g

21

<210> 4

<211> 20

<212> DNA

<213> Streptococcus pneumoniae

<400> 4

gacaattctt gcccctttgg

20